

The changing rationale for governance choices: early vs. late adopters of global services sourcing

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The Changing Rationale for Governance Choices: Early vs. Late Adopters of Global Services Sourcing

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Research summary

This paper studies how the logic of firm governance choices varies as a function of the time of adoption of particular sourcing practices. Using data on the diffusion of global business services sourcing as a management practice from early experiments in the 1980s through 2011, we show that the extent to which governance choices are affected by process commoditization, availability of external service capabilities, and past governance choices depends on whether firms are early or late adopters. Findings inform research on governance choice dynamics specifically in highly diverse and evolving firm populations.

Managerial summary

This paper considers how firms have chosen delivery models in global services sourcing decisions over time. Based on comprehensive data, we make two major observations. First, we find that firms that began with global services sourcing early, invested mainly in their internal sourcing capacity, while outsourcing only simple tasks to external providers, whereas firms that started later invested more in their capability to outsource various services to increasingly sophisticated suppliers. Second, we find that initial investments in internal or external sourcing capabilities have a strong effect on future choices of delivery models. This explains why, even today, firms vary greatly in how they implement global sourcing decisions, and it suggests that newcomers should learn from their own peer group rather than from highly experienced firms.

Key words: Governance choices, time of adoption, process commoditization, global service providers, path dependence

Introduction

Firm governance choices have long been investigated in economics and management (e.g., Coase, 1937; Stigler, 1951; Williamson, 1975, 1985). Recent studies have identified multiple drivers, including supplier capabilities, transaction characteristics (Argyres and Zenger, 2012; Madhok, 1996; Mayer, Somaya, and Williamson, 2012), and process commoditization, i.e. the increased standardization and redeployability of business processes across industries, firms and geographies (Davenport, 2005; Manning, 2013). All these factors are dynamically interrelated and co-evolve along each other (Jacobides and Winter, 2005).

Prior research also maintains that firm-specific experience and prior governance modes influence future governance choices (see e.g. Argyres, Felin, Foss, and Zenger, 2012; Mayer *et al.*, 2012; Argyres and Liebeskind, 2002), and that multiple governance modes often co-exist within firm populations (Kapoor, 2013). Yet, to date, we still lack substantial theoretical and empirical understanding of the interplay of firm-level and population-level dynamics in driving governance choices. We argue that firm populations are composed of sub-populations of early

and late adopters of certain sourcing practices whose rationale for making certain governance decisions may differ. Building on insights from diffusion studies (e.g., Bass, 1969; Geroski, 2000; Griliches, 1957; Metcalfe, 1988), we seek to better understand how time of adoption affects the rationale for governance choices. Specifically, we analyze how early vs. late adoption of sourcing practices affect the logic of governance choices, in particular the importance of process commoditization, supplier availability, and prior governance decisions.

Empirically, we examine the rationale for either internal or external governance choices in the context of global sourcing of technical and administrative business services (Sako, 2006; Doh, 2005; Lewin and Peeters, 2006; Manning, Massini, and Lewin, 2008; Mayer *et al.*, 2012) – a management practice that has been increasingly adopted across industry and geographical contexts (Peeters, Massini, and Lewin, 2014). Based on historical project-level data of global services sourcing projects from the 1980s through 2011, we find that level of process commoditization is a critical driver of initial governance choices for early adopters, but not for late adopters. Conversely, the extent to which service capabilities are available externally affects initial governance choices of late adopters, but not of early adopters. Interestingly, for early adopters, initial choices of internal – rather than external – governance modes are linked to longer-term governance-specific investments that make future choices to outsource less likely. In contrast, for late adopters, initial external – rather than internal – governance mode choices unfold such path-dependent tendencies. By integrating population and firm-level explanations, we help better understand major differences between initial governance decisions of early vs. late adopters, and how these initial decisions trigger different long-term governance choices dynamics.

Governance Choices, Firm- and Population-level Dynamics

Traditionally, transaction cost economics has been the dominant framework for explaining governance choices (David and Han, 2004; Safizadeh, Field, and Ritzman, 2008; Williamson, 1975, 1985, 1991). Transaction cost economics holds that firms' boundaries (make or buy decisions) are mainly related to properties of transactions, such as degree of asset specificity, and related risks of opportunistic behavior, and contractual hazards, as well as external market conditions, such as degree of competition, number and size of suppliers. More recently, this perspective has been complemented by studies focusing on the role of firm-specific experience, resource base, and

capabilities in co-determining governance choices (Argyres *et al.*, 2012; Kapoor and Adner, 2012; Madhok, 1996). These studies are partially grounded in the resource-based view (Barney, 1991; Penrose, 1959; Wernerfelt, 1984) and the dynamic capabilities perspective (Eisenhardt and Martin, 2000; Teece, Pisano, and Shuen, 1997), which emphasize firm heterogeneity in decision-making and productive capabilities (for an overview, see Zenger, Felin, and Bigelow, 2011), and their interaction with transaction conditions (Argyres and Zenger, 2012).

Both perspectives are further advanced by studies about dynamics affecting governance choices at the population level, incorporating the co-evolution of client and supplier capabilities (Jacobides and Winter, 2005, 2012; Jacobides, 2008; Helfat, 2015). Specifically, studies have noticed the emergence of specialized supplier industries offering more or less commoditized products or processes to business clients at relatively lower costs (Langlois, 2003). Commoditization often refers to dynamics by which intermediate products, tasks and processes become less firm-, product-, and industry-specific (Davenport, 2005). Thus, one major property of commoditized processes is their redeployability, i.e. their applicability across firm, product and industry contexts. Suppliers develop and specialize in process capabilities they can exploit across a potentially large and diverse client base.

Many studies suggest that these dynamics promote homogeneity in governance choices as industries mature. In fact, many industries have become more vertically disintegrated thanks to the increasing capacity of suppliers to generate specialization advantages and related economies of scale in offering redeployable products and services (Helfat, 2015; Stigler, 1951). This has been observed for example in car manufacturing (Sturgeon, Van Biesebroeck, and Gereffi, 2008), electronics (Gereffi, Humphrey, and Sturgeon, 2005), and film production (Storper and Christopherson, 1987; Jones, 2001; Starkey, Barnatt, and Tempest, 2000). Helfat (2015) suggests that only when client firms face a small numbers problem when selecting suppliers, when demand fluctuates, or when clients face contractual hazards with suppliers, will more integrated sourcing models prevail. In both scenarios, competitive selection pressure, co-specialization effects, and peer imitation are said to drive the emergence of a dominant sourcing model of either high or low vertical disintegration (Jacobides and Winter, 2005). But there is abundant empirical evidence that, despite such population level trends, client firms may follow rather idiosyncratic paths of decision-making and capability development, favoring heterogeneous governance choices even if specialized supplier industries emerge over time (Noda and Collis, 2001; Argyres *et al.*, 2012; Madhok, 1996; Argyres and Zenger, 2012; Kogut and Zander, 1992; Mayer *et al.*, 2012). For example, firms may vary in their

ability to collaborate with external suppliers and integrate processes (Mayer and Salomon, 2006), or in how they create value by setting boundaries differently (Jacobides and Winter, 2007; Kapoor, 2013).

We view these dynamics as complementary rather than contradictory, and develop a more integrated analytical approach which focuses on the rationale for governance choices as a function of time of adoption of a particular sourcing practice. Specifically, we argue that the importance of process commoditization and availability of external service capabilities in affecting governance decisions may differ for sub-populations of early and late adopter firms.

The Context of Global Services Sourcing

Global services sourcing refers to the sourcing of business services from locations outside a firm's home country, through either fully owned subsidiaries or external providers, for the purpose of serving domestic and/or global firm operations (Kenney, Massini, and Murtha, 2009; Manning *et al.*, 2008). It involves the unbundling and global reorganizing of business functions and processes, such as human resources (HR), finance and accounting, IT infrastructure, software development, and analytics (Sako, 2006). Early adopters of global services sourcing included mostly large firms from the U.S. with significant administrative overhead, who experimented with sourcing administrative and technical processes from offshore to cut costs (Doh, 2005; Lewin and Peeters, 2006). Later, global services sourcing was adopted by firms across industries and sizes, especially from Europe and North America, as a way to reorganize a wide range of processes globally, and thereby exploit location advantages such as low labor cost, large talent pools, and external expertise (Lewin, Massini, and Peeters, 2009; Manning *et al.*, 2008).

Global services sourcing shares similarities with, but also differs from, sourcing of production in manufacturing. As for similarities, it has been driven by a combination of technological advances (Apte and Mason, 1995; Mithas and Whitaker, 2007), commoditization (Davenport, 2005), and growing availability of specialized suppliers (e.g., Levina and Su, 2008; Ethiraj, Kale, Krishnan, and Singh, 2005). According to metrics by NASSCOM (2015), it has created a market for global IT and administrative services valued 150 \$Billion. Yet, it also differs from sourcing in manufacturing. First of all, sourcing of business services focuses on unbundling

and re-organizing corporate support processes and functions, such as HR, IT, finance and accounting, and legal, rather than product-specific tasks (Sako, 2006). It is thus a sourcing practice that typically applies across product lines and industry boundaries. At the same time, it is more firm-specific than sourcing of manufacturing since firms vary considerably, due to their size, history and structure, in their need and ability to source business processes globally (Jensen, 2009). This results in a heterogeneous client population where peer observation and isomorphism in governance decisions may matter much less than in more industry- or product-specific sourcing decisions where firms producing similar products with similar inputs frequently observe and interact with each other (DiMaggio and Powell, 1983; Jacobides and Winter, 2005). Furthermore, business services are in part highly intangible and require tacit knowledge to perform them according to client expectations (Miles, 1993), even if services are perceived as highly standardized (Manning, Hutzschenreuter, and Strathmann, 2013). As a consequence, decision-makers often tend to underestimate operational problems – and related ‘hidden costs’ (Larsen, Manning, and Pedersen, 2013). A longer period of mutual learning between clients and service providers is often needed to adjust to these challenges (Levina and Vaast, 2008). By contrast, some contractual hazards that exist in manufacturing may be less of an issue in services. For example, service providers, due to their focus on corporate functions rather than product value chains, are less likely to compete with their clients for the same market of end customers. Service clients are thus less concerned about losing critical knowledge to potential future competitors than clients of manufacturing suppliers (see also Helfat, 2015).

In addition, global services sourcing has an important international dimension that distinguishes it from domestic sourcing. First, client firms from different, mostly advanced, economies, have set up service operations – either through captive units or external providers – in different, typically emerging economies. Thus, in addition to coming from different industries, clients vary in terms of their geographic origin, which adds variety to the client population. In turn, suppliers have adjusted to this situation by being able to offer commoditized services to clients across industry and geographic contexts (Sako, 2006). Second, as firms decide to source business functions and processes from abroad, they face the challenge of having to organize, coordinate and integrate processes across geographic, institutional and cultural distances (Kumar, van Fenema, and Von Glinow, 2009; Peeters, Dehon, and Garcia-Prieto, 2015), regardless of which governance mode they choose to run their operations. To some extent, the need to identify ‘sourceable’ processes ‘precedes’ location and governance choices (Apte and Mason, 1995;

Blinder, 2006), thus reducing transaction costs related issues to the latter. However, despite the facilitating role of advanced information and communication technology in enabling task intermediation and long-distance communication (Dossani and Kenney, 2007; Ellram, Tate, and Billington, 2008; Stratman, 2008), the lack of face-to-face communication, time zone differences, and cultural as well as institutional differences pose continuous challenges (Levina and Vaast, 2008; Srikanth and Puranam, 2011). In this context, governance mode choices can be seen as a way to manage the complexity arising from such distances (e.g. Gooris and Peeters, 2014). For example, many service providers have developed the capability of accessing dispersed talent pools from remote, often institutionally different locations, and manage operations across time zones, thereby reducing the need for clients to develop their own solutions for running operations across locations (Manning, Larsen, and Bharati, 2015). At the same time, some client firms may need to develop their own, idiosyncratic sourcing capabilities that match their specific location set-up and distribution of operations, thereby creating synergies among captive operations across locations (Gospel and Sako, 2010; Jensen, 2009).

Hypotheses Development

The hypotheses that follow focus on how the time of adoption of global services sourcing affects the rationale for governance choices. In particular, we seek to add nuance to our understanding of how critical mechanisms such as process commoditization, perceived availability of external service capabilities, and past governance choices affect governance decisions depending on whether client firms are early or late adopters of global services sourcing.

Governance choice rationale of early vs. late adopters

Prior research has established that two important drivers of governance choices are the degree of process commoditization and availability of external service capabilities. We argue that, while both mechanisms matter, their relevance in driving governance decisions depends on whether the firms making such decisions are early or late adopters of global services sourcing.

First, prior studies have often emphasized the importance of process commoditization in affecting governance decisions in sourcing in general, and global sourcing in particular (Ellram *et al.*, 2008; Kedia and

Mukherjee, 2009; McIvor, 2009; Stratman, 2008). With commoditization, intermediate products, tasks and processes become less firm-, product-, and industry-specific (Davenport, 2005). Redeployability is thus an important property of commoditization. The more easily processes can be redeployed across firms, products and industries, the more easily suppliers can establish and benefit from specialization effects, scale economies and cost advantages vis-à-vis clients (Sako, 2006). Commoditization implies that a potentially large and growing number of clients will benefit from outsourcing the same process, which in turn incentivizes a potentially large number of suppliers to offer the same business processes and services. This lowers transaction and supplier switching costs for clients (Argyres and Bigelow, 2010) and makes outsourcing more likely.

We argue that the level of process commoditization may be of different importance in governance decisions of early vs. late adopters of global services sourcing. According to diffusion studies, a population of adopters – of new practices, processes or technologies – is made of innovators, early adopters, majority of adopters, and laggards adopting an innovation over time (Rogers, 2003; Massini, Lewin, Numagami, and Pettigrew, 2002). Studies of adoption of technological innovation (e.g., Geroski, 2000) as well as new management practices (e.g., Mol and Birkinshaw, 2009) show that early adopters tend to be larger firms, as they hold more resources, and therefore can take more risks at a time of higher uncertainty about the characteristics of new products and practices; their scale allows to absorb the higher costs associated to new products and services; and they face stronger competitive pressure which may push them to take more challenging decisions. However, a new product or service does not remain unchanged as it diffuses (Ansari, Fiss, and Zajac, 2010) and different vintages and/or versions of an innovation, from more sophisticated to simpler, become available in the market at the same time (Norton and Bass, 1987) attracting different types of adopters (Mahajan and Muller, 1996).

When firms started adopting the management practice of sourcing business services globally, most service providers offered only a limited number of services. Early adopter firms, many of whom were long established and large in size (Sako, 2006), had a strong incentive to cut administrative and infrastructure costs (Lewin and Peeters, 2006; Doh, 2005). Also, many lead firms of global services sourcing, such as Texas Instruments, Microsoft and Motorola in India, were looking into the possibility of sourcing software and engineering support services from abroad and using their financial capital and branding power to recruit talent and transform the local business

environment (Patibandla and Petersen, 2002). Local governments, in turn, actively recruited such companies to generate stimulus for economic development (Dossani and Kenney, 2007). Whereas those firms had a strong interest in maintaining control over the sourcing of such knowledge-intensive and often firm-specific processes by setting up captive centers, they would experiment with using external suppliers for processes that were getting commoditized and that were not a potential source of competitive advantage (see also Jensen, 2009; Sako, 2006). This explains for instance why call centers were among the first services to be largely outsourced globally using infrastructure and technology that external providers could easily leverage across different product lines and clients (e.g. Lewin and Peeters, 2006). In other words, early adopters of global sourcing found it easier to give up control on highly standardized processes, thereby also testing capabilities of external providers (Ethiraj *et al.*, 2005). At that time, initial transaction costs were typically high because the number of providers was low, the characteristics, standards and cost savings from new services were not well defined, and high coordination was needed between suppliers and clients to make global services sourcing work (Helfat, 2015). Often, early adopter clients and external service providers would work together to develop standardized solutions to non-critical processes to apply them across product lines (Sako, 2006). This was also in the providers' interest, since focusing on commoditized services would allow them to scale up faster and reach a broader client base. For more differentiated, firm-specific and strategic services such as technological support and software development, the supplier industry was not mature enough to compete with internal capabilities of early adopters. Thus, in line with Helfat (2015), we assert that the degree of process commoditization was an important factor for early adopters in deciding whether to use an external service provider or an internal service center.

By contrast, late adopters began sourcing processes globally when external service offerings were already more differentiated. As the provider population learned to commoditize a wider range of services, commoditization became a pervasive trend. This created the opposite incentive for providers to offer more complex and knowledge-intensive services and make more client-specific investments, including technologies, machineries, software development and training, allowing them to repeat business and maintain critical client relationships (Levinthal and Fichman, 1988; Manning, Lewin, and Schuerch, 2011; Sako, 2006), and to differentiate from competitors and avoid the commodity trap (Dibiaggio, 2007; Alcacer and Oxley, 2014). The increasing range of both commoditized and differentiated service offerings became especially relevant to late adopters who, in contrast to early adopters,

vary much more in industry, geographic origin and size, ranging from large to very small clients. Often, late adopters would also lack the sophisticated service capabilities external providers had already developed. Unlike early adopters, late adopters may thus consider external contracting no matter how commoditized processes are.

Hence, focusing here on initial governance choices of early vs. late adopters, we predict that process commoditization is an important rationale mainly for governance choices of early adopters of global services sourcing, but it loses predictive power in explaining governance choices of late adopters. We hypothesize:

H1a: When making governance decisions for initial global services sourcing projects, the degree of process commoditization positively affects the likelihood that a firm chooses an external (rather than internal) governance mode when the firm is an early adopter, but not when it is a late adopter of global services sourcing.

Second, availability of particular service capabilities in the service provider industry influences governance choices (Ethiraj *et al.*, 2005; Athreye, 2005). Regardless of how beneficial outsourcing would be to clients, only if service capabilities are available externally will external sourcing become an option (Gereffi *et al.*, 2005; Jacobides and Winter, 2005; Helfat, 2015). By service capabilities we mean the productive capabilities that providers develop and market and that allow them to take on client tasks at increasingly lower costs and larger capacity. We assume that the more readily available these service capabilities are, the higher the likelihood that firms will outsource processes to suppliers. Importantly, we are not interested here in the well-known ‘small numbers’ problem of transaction cost economies (Williamson, 1975). Rather, we argue that with an increasing size, professionalization and organization of the supplier market, its various capabilities become more differentiated and visible, and that this should affect client governance choices. However, we also argue that availability of external service capabilities influences governance choices of early and late adopters of global services sourcing differently.

In the early stage of diffusion of an innovation, information about products, services, and providers is typically scarce. In the specific case of global sourcing, this means that it was difficult for client firms to screen and map global external service capabilities. Whereas managers of client firms might have good knowledge of the availability of local or domestic providers for particular services, such as IT, it is less likely the case for

geographically remote locations. Early adopters have only limited information on service capabilities available globally. Similarly, prior research on industry evolution suggests that, at an early stage, client firms typically lack a systematic understanding of the landscape of suppliers and their capabilities (Langlois, 2003). This seems particularly the case when suppliers are located in foreign countries. In practice, early adopters of global services sourcing would choose to work with external providers mainly based on personal contacts of individual managers, in particular when the services in question are non-critical and/or sufficiently standardized. Also, prior research suggests that many early adopters of global sourcing are large innovative pioneers that would not hesitate to proactively experiment with outsourcing by training and incentivizing providers to develop new service capabilities (see e.g. Dossani and Kenney, 2007). Thus, limited information and prior availability of external service capabilities would not be significant determinants of governance choices because of the proactive attitude of early adopters to engage with service providers and encourage them to develop new service capabilities when needed.

By contrast, late adopters have started sourcing processes globally at a time when service providers have become more visible, and various business promotion agencies and consulting firms would make the external availability of various types of services much more transparent, thus assisting governance decisions (see, e.g., Global Services, 2009). In addition, more and more provider firms, regardless of where they originally come from, have increased their visibility by opening development centers and client-serving units close to major client markets (Manning *et al.*, 2015) making clients more aware of the availability of service capabilities. In other words, as the service provider industry matures and becomes more professionalized, information about external service offerings becomes more easily and widely accessible, reducing both purchasing costs and mundane transaction costs associated with identifying and negotiating with potential suppliers (Levina and Su, 2008; see also Langlois, 1992, 2003). In addition, late adopters tend to be less proactive than early adopters in co-developing new services with external providers, and hence are more likely to respond to already available external capabilities rather than drive their future development. We thus expect that the extent to which certain service capabilities are readily available in the market influences governance choices of late adopters, but not of early adopters of global services sourcing practices. Again, focusing on initial governance decisions of early and late adopters, we hypothesize:

H1b: When making governance decisions for initial global services sourcing projects, the availability of external service capabilities positively affects the likelihood that a firm chooses an external (rather than internal) governance mode when the firm is a late adopter, but not when it is an early adopter of global services sourcing.

Prior governance choices of early and late adopters

Hypotheses 1 argued that early vs. late adoption matters in how important process commoditization and external service availability are for initial governance choices of firms that decide to source services globally. We further posit that future governance choices are influenced by past governance choices, and that early and late adopters differ in the way past governance decisions matter for future choices.

Past research has established that a firm's prior governance choices matter in the governance choices the firm makes in the future (Argyres and Liebeskind, 1999, 2002). Two complementary arguments have been elaborated to theoretically support that observation. On the one hand, scholars have found that initial governance decisions induce a process of governance-specific investment and learning promoting the development of capabilities and structures supporting a particular governance mechanism rather than another (Mayer *et al.*, 2012; Noda and Collis, 2001; Helfat and Peteraf, 2003, March, 1991). On the other hand, the very process of developing governance-specific capabilities may also lead to rigidities and path dependencies (Leonard-Barton, 1992; Levinthal and March, 1993), which narrow search patterns (Madhok, 1996) and lead to lock-in and the exclusion of alternative governance options (see also Arthur, 1989, 1994; Ghemawat, 1991). One key driver of such lock-in effects is what has been called 'governance inseparability' (Argyres and Liebeskind, 1999, 2002), i.e. the fact that particular modes of governance of transactions become 'inseparable' from firm-internal practices and policies, such as formal and informal contractual arrangements with staff, a sense of shared ownership, and firms' governance-specific investments into capabilities. We therefore expect that prior choices of a particular governance mode will make future choices of that governance mode more likely.

According to this logic, prior captive, i.e. in-house, governance decisions should make future captive decisions more likely, even if the availability of external services changes over time. Indeed, prior studies have demonstrated that prior captive solutions make outsourcing decisions less likely (Lewin *et al.* 2010; Mayer *et al.*, 2012). This is likely to be true not only for sourcing more of the same process, but also for sourcing different

processes. Reasons include lower opportunities or urgency of developing outsourcing-related capabilities (e.g., contracting, supplier training), and more emphasis on internal capabilities promoting subsequent internal sourcing solutions (Jacobides and Billinger, 2006; Safizadeh *et al.*, 2008; Sirmon, Gove, and Hitt, 2008). Firms can thus exploit emerging internal sourcing capabilities *across* tasks and process domains. These capabilities, in turn, induce path dependencies as firms are incentivized to exploit economies of scope by utilizing insourcing-related staffing, communication and other capabilities, while lacking capabilities, e.g. contracting and supplier search, needed to switch to external governance arrangements. These path-dependence effects might be reinforced by the fact that adopters of global services sourcing vary significantly by industry, home country and sourcing needs, which lowers (external) isomorphic pressures (see also Langlois, 2003).

Likewise, we expect firms to continue to choose outsourcing as a preferred governance model for global sourcing based on related capabilities they develop from prior outsourcing decisions. This is because they can exploit the contracting and vendor management capabilities that they have developed over time (Argyres and Mayer, 2007; Argyres *et al.* 2012), while also learning how to manage typical risks of global outsourcing, such as loss of managerial control and intellectual property protection (Grossman and Helpman, 2005). Since capabilities in setting up service agreements, quality control and monitoring systems can be applied across vendors as well as to new service outsourcing arrangements within the same or different service domains, firms with outsourcing experience become less and less likely to experiment with a captive solution. Similarly to ‘captive paths’, ‘outsourcing paths’ may thus be reinforced through path dependencies emerging over time.

Our baseline hypothesis therefore seeks to validate, in the specific context of global services sourcing, the effect of prior governance choices that extant literature has already suggested or shown in other contexts:

H2a: Past decisions to select a particular governance mode for sourcing processes globally increase the likelihood that a firm continues selecting this governance mode when sourcing new processes from abroad.

However, past governance decisions may not have the same effect for early adopters as for late adopters of global services sourcing practices. When early adopters started sourcing services abroad, they faced a market of potential suppliers that was still emerging. Arguably, at that time, internal sourcing capabilities of client firms were often more advanced than external supplier capabilities, since suppliers were only beginning to

professionalize and expand their service offerings (Athreye, 2005). Being relatively large and more resourceful, many early adopters were able to start their own service delivery centers abroad, especially for more complex and idiosyncratic processes, and start generating economies of scale and scope internally. Their size and reputation would also help them negotiate favorable deals with local governments that would allow them to lower investment risks (see also Manning *et al.*, 2012). Examples include early captive centers of Motorola and Microsoft in India (Patibandla and Petersen, 2002; Dossani and Kenney, 2007). This promoted the development of sophisticated internal sourcing capacities. Following the initial investment and continued development of internal sourcing capabilities, early adopters would face strong incentives to grow the scale and scope of their captive service delivery centers. For commoditized processes, early adopters could still decide to opt for outsourcing (see H1a), often on a project-by-project basis or for very specific tasks (Ethiraj *et al.* 2005). But the initially limited range of externally available services limited the need for developing sophisticated external sourcing capabilities that the client firm could continue to exploit in future global sourcing initiatives. For those reasons, we posit that in the case of early adopter firms, initial internal governance choices are much more likely to trigger longer-term governance-specific investments than initial external governance choices.

H2b: For early adopter firms, past decisions to select an internal governance mode for sourcing processes globally increase the likelihood that a firm continues selecting internal governance modes when sourcing new processes from abroad, whereas past decisions to select an external governance mode will not affect future governance choices for new processes.

By contrast, late adopter firms typically started global services sourcing at a time when the service provider industry was already fairly mature and capable of offering process efficiencies and cost savings across a wide range of services (Manning *et al.*, 2015). This would be particularly attractive to (smaller) late adopters whose service capabilities were often weaker than those of expert providers, and who typically lacked the resources and capabilities to organize the global sourcing of services internally. Partly assisted by consultants, late adopters would then be incentivized to develop effective contracting and collaborating capabilities that they could later exploit across providers and service domains. Whereas early adopters would generate scale and scope economies mainly through bundling services internally, late adopters would benefit much more from generating synergies externally. Given the wide range of services providers have learned to offer, often from multiple locations, the

incentives for late adopters to persist with internal sourcing would be relatively low compared to incentives to expand external sourcing. Moreover, by the time late adopters started sourcing services globally, providers had been facing increasing competitive pressure from ongoing trends of process commoditization (Couto, Mani, Sehgal, Lewin, Manning, and Russell, 2008). In response, they evolved from offering services primarily on a project-by-project basis (Ethiraj *et al.* 2005) to strategically seeking to build up longer-term, interdependent, multi-service relationships with clients (Couto *et al.*, 2008; Manning *et al.*, 2011), which would increase both supplier and governance switching costs for clients. In addition to expanding and differentiating their service offerings and providing support infrastructure across service domains, increasingly large providers were conducting their own ‘research and development’ to satisfy new and established clients with new innovative solutions (e.g. Wipro, 2017). For these reasons we expect that, for late adopters, initial external governance choices are much more likely to trigger longer-term governance-specific investments than initial internal governance choices.

H2c: For late adopter firms, past decisions to select an external governance mode for sourcing processes globally increase the likelihood that a firm continues selecting external governance modes when sourcing new processes from abroad, whereas past decisions to select an internal governance mode will not affect future governance choices for new processes.

Data and Methodology

We test the hypotheses based on longitudinal data collected by the international Offshoring Research Network (ORN). The ORN is a network of scholars based in the United States, Europe, and Australia studying the dynamics and trends of global sourcing of business services. Between 2004 and 2012, the ORN research team conducted two major surveys: the corporate (buy side) survey and the service provider survey. This study uses data from both surveys (for sample reports, see Lewin and Couto, 2007; Lewin, Perm-Ajchariyawong, Sappenfield, and Aird, 2010).

The corporate survey collected data from U.S., European, and Australian client firms on their global sourcing strategies, drivers, perceived risks, outcomes, and future plans. Importantly, the survey captured detailed historical information on sourcing projects that firms have implemented over time, starting as early as the 1980s, including the type of process, launch year, choice of location, choice of governance mode (captive or outsourced), and performance data (e.g., savings achieved). For example, if firm X implemented three global sourcing projects

over time, the survey would capture the types of processes (e.g., IT, engineering, and call center), the launch year for each implementation (e.g., 1999, 2005, and 2010), the choice of location (e.g., India, India, and China), the governance mode (e.g., captive, and outsourced), and various performance measures for each of the three projects. Overall, the database used for this empirical study is based on surveys of 291 firms reporting 904 global sourcing projects. Out of those, 50 projects (6%) were implemented before 1996, 109 projects (12%) before 2000, 441 (49%) before 2005, and 750 (83%) before 2007. Based on historical project launch data, we were also able to differentiate early from late adopters. 128 firms (44% of total, early adopter half) began offshoring before 2004; 163 firms (56% of total) started since 2004. The quartile of earliest adopter firms (79 firms, 27% of total) started before 2002; and the quartile of latest adopter firms (79 firms, 27% of total) started since 2006.

Since the ORN database was designed to provide historical project information, we were able to carry out a longitudinal analysis of sourcing projects and governance mode choices over time. As a limitation, the ORN database only informs about processes sourced abroad and not about the organization of business processes and outsourcing decisions domestically. Additionally, the survey is retrospective in nature and therefore liable of bias. However, we asked that the most knowledgeable people involved in global sourcing of services in each firm would fill in the questionnaire, and overall only 25 percent of responses are about decisions made five or more years prior to taking the survey. The survey also included a ‘Save and Continue’ option which allows to pause to gather specific information if needed. Lastly, the present study mostly uses objective facts about the governance choices and tasks sourced abroad, which informants should know or have no difficulty finding.

Firms are distributed across different industries, primarily manufacturing, finance and insurance, software, and professional services. Reflecting the actual composition of industrial sectors in the domestic countries of firms included in the study, 39 percent are large firms (>10,000 employees); 24 percent are midsize (501–10,000 employees), and 37 percent are small (1-500 employees) (Table in Online Appendix provides detailed breakdown). Globally sourced processes include IT infrastructure, administrative services (e.g., HR, legal, finance and accounting), call centers, software and product development projects, marketing and sales, and procurement (see Table in Online Appendix). In the findings section we provide further statistics comparing early and late adopters.

<<<<< Insert Table 1 about here >>>>>

We also use data from the ORN service provider survey, which collected data from service providers from the United States (39%), Western Europe (19%), India (17%), Eastern Europe (6%), China (5%), and elsewhere between 2007 and 2012 (see Table in Online Appendix). The sample (n=481) includes all major providers, e.g. Accenture, Infosys, TCS, IBM Global Services, Genpact, Tata, etc. Survey participants also report the year when they began offering particular service processes, which provides valuable information about the supply of services at any particular point in time. In terms of size distribution, 19 percent of providers are large (>10,000 employees), 34 percent are midsize (501 - 10,000 employees), and 47 percent are small (1-500 employees).

Although both client and provider survey were taken independently, we were able to combine data from the two mainly through matching operationalization of specific business processes. For call centers, for example, the client survey would report which clients sourced a respective process from a particular country at a particular time, while the provider survey informs about which provider offers related services, where services are provided from etc. Both client and provider surveys were taken online. Respondents reached the survey website through external links or email invitations linked to the activities that ORN organizes with the global sourcing community, independently or in collaboration with industry associations. Once registered and approved by the ORN research team, respondents were added to the database. Using data from two independent surveys for this study, as well as external data sources, helps address the common method variance problem (Chang, Van Witteloostuijn, and Eden, 2010).

We use a binary logit regression model to examine how process commoditization, availability of external service capabilities, and firm prior governance decisions affect a firm's choice of governance mode (internal or external sourcing) for sourcing particular business services abroad. All variables used in the models are listed and explained in Table 1. The *Dependent Variable*—use of external delivery model when sourcing a process globally—is a binary variable that takes a value of 1 when a company chooses to source a process from an external service provider, and a value of 0 when a firm sources the process internally through a captive services center. Importantly, as noted above, we only examine global (rather than domestic) sourcing projects, in line with the idea that global services sourcing has been adopted as a rather distinctive management practice (Peeters *et al.*, 2014). Therefore the sample does not include governance decisions related to processes executed in the domestic country

of client firms. The way we operationalize the dependent variable is consistent with other studies analyzing firm governance mode choices (e.g., Ellram *et al.*, 2008; Stratman, 2008).

Commoditization of processes is generally associated with the degree to which processes become less firm-, product-, and industry-specific (Davenport, 2005; Manning, 2013). Measuring commoditization is challenging. Some studies use subjective measures that indicate to what extent certain processes are perceived by firm managers to be highly standardized or commoditized (see e.g. Larsen *et al.*, 2013). This approach, however, suffers from perception bias. It typically does not allow to capture changes over time, unless managers are surveyed across larger time spans. We preferred a more objective construct that also incorporates historical project launch year information, without relying on managers' retrospective perception.

We constructed a composite measure that proxies the extent to which the practice of sourcing a particular process has become 'non-specific' to firms from particular industries or home countries, i.e. how much the practice of sourcing a process globally has been adopted across the entire firm population relative to other processes. Specifically, we compare the industry and home country distribution of global sourcing projects for each process with the distribution of industries and home countries across all sourcing projects. A similar measure is used to calculate relative technological advantage of countries, based on patenting in certain sectors compared to the world population (e.g., Archibugi and Pianta, 1992; Laursen, 2000). In our context, high prominence of particular industries or home countries in the distribution of sourcing projects indicates high specificity of client demand. The more industry- or country-specific the demand, the less 'redeployable' are services from the providers' perspective, the more client-specific investments they need to make to offer respective services and the more difficult it becomes for them to develop specialization advantages and scale economies vis-à-vis clients, which, in turn, affects the rationale of clients for selecting a particular governance mode.

For example, requirements of software tests may be similar no matter what nationality client firms are, yet sourcing needs may be specific to certain industries. Conversely, firms across industries may have an interest in outsourcing legal processes, yet the possibility to outsource them may depend on the home legal environments. Specifically, we compared the industry and home country with the highest frequency for each process with the respective frequency of the industry and country across processes, and computed the ratio between the two. The

lower the ratio, the more commoditized is the process (relative to all projects). For example, 'software development' (as a process) is mostly (48%) sourced globally by software firms. This indicates relatively high industry specificity. Across processes, software firms make up only 27 percent of the entire firm population. Thus we obtain a ratio of 27/48 for the industry component of this measure. The same principle applies to home countries. We compute a linear additive measure of both ratio components (see Table 1 for more details). We also looked at firm size as another comparative measure, but we stepped away from it as firm size is likely to change over time (and we lack historical size data). To capture changes in process commoditization over time, we looked at early and more recent sourcing projects separately. To ensure comparable sample sizes for each process, we computed process-specific measures for commoditization across industries and home countries for 'early' projects until 2004 (n=441) and more 'recent' projects after 2004 (n=463), across the entire firm population. For robustness purposes, we also used a 5-point Likert scale subjective variable, similar to Larsen *et al.*, (2013), that captures to what extent providers perceive each process to be commoditized at the time they participated in the survey. Results are very similar to those obtained with the more objective measure, which suggests strong robustness and construct validity.

Availability of external service capabilities is measured for any particular year by the lagged number of providers, relative to the size of the entire provider sample, offering particular process-related services, e.g. call centers, IT services, HR services (based on data from the service provider surveys capturing the starting year of each service for each provider). More specifically, we calculated for year X the number of providers offering particular service capabilities at least since year X-1 divided by the total number of providers in our database, including providers that did not even exist in year X-1 (but that existed in 2011, the most recent data point). This way we captured two important dimensions: (a) the relative availability of particular services relative to other services at any point in time, and (b) the relative availability of a service in year X compared to 2011 (the final year of data collection). Both dimensions are important because we are not only interested in how relative availability of services may affect governance choices but how the growing availability of any service may affect such choices over time. As indicated above, we construe the relative number of the total provider population offering certain services at any point in time as an indicator for the relative visibility and professionalization of services – compared to other services. However, our intention is not to measure 'visibility', which would be rather subjective, but instead to use the more objective measure of 'availability' to test to what extent clients pay attention

to the actual supply of services when making governance decisions. Operationally, assuming the total population of providers (in 2011) is 10, if one of them was providing call center services to global clients in 2001, then our external availability index for call centers in 2002 (i.e. one year later) would be 0.1. By comparison, if by the year 2010, five more providers would add call centers to their service portfolio, the call center availability value for 2011 would be 0.6. The one year time lag accounts for the time it takes for information on the availability of specific service capabilities to spread, and for the client population to adjust to changes in service offerings.

For robustness checks we used several alternative measures which yielded similar results. First, we used a three-year time lag (instead of a one-year time lag) to better capture the role of provider experience in attracting client projects. We also computed a measure that not only captures service availability across providers but also across service locations (measured by provider headquarters). Also, we used a measure that looks specifically at relative service availability within a given provider population in any particular year to better account for changes in the provider population. The results are consistent across the different measures. However, we decided to adopt the first measure because the added explanatory power of alternative measures was marginal and because the latter were more sensitive to potentially incomplete or falsely reported data (e.g. on service locations). Finally, we computed the ratio of suppliers of particular services vs. clients of such services over time to get a better sense of changing competitive conditions and possible small number effects. But since supplier and client populations co-evolve, this measure lacked variation over time and turned out not particularly useful.

Prior governance decisions for global services sourcing projects are operationalized as two binary variables denoting, respectively, whether or not a firm used an internal (external) governance mode for a particular process sourced abroad (variables: prior internal/external delivery choice), at least once before making a particular new governance choice. There are cases where firms have experimented with both governance models (prior internal delivery choice=1; prior external delivery choice=1) prior to making a particular new governance decision. An alternative way of operationalizing the history of governance decisions would be to compute, over time, the ratio of external vs. internal governance model choices prior to any new choice. However, such a construct would not allow us to test the effect of prior captive and outsourcing experience independently. Therefore we decided to use the two independent dummy variables described above.

We use several *control variables*. First, we take into account firms' strategic goals for global services sourcing which may affect governance choices. Using external delivery models is typically seen by firms as an effective way to benefit from labor arbitrage and other cost reductions such as capital outlays (e.g., Ciarli, Leoncini, Montresor, and Valente, 2008). By contrast, if global sourcing is seen as an integral element of the global growth strategy of the firm, keeping the particular process internal (i.e., captive offshoring) may be more likely, as it helps generate economies of scale and scope through bundling of resources as firms grow (Penrose, 1959). Finally, some firms may have an overriding strategic interest in increasing speed to market through global sourcing and therefore may source needed capabilities from specialized providers rather than develop such expertise internally (see also Ciarli *et al.*, 2008). We measure firms' strategic goals for global sourcing by using Likert scale variables from the ORN corporate client survey. The corresponding question in the survey is to what extent particular drivers (cost savings, global growth, speed to market) were important in guiding global sourcing of particular functions. The cost reduction goal is measured by the average of two variables: importance of labor cost savings and importance of other cost savings as a driver of global sourcing. Both variables relate to the cost aspect of global sourcing and show some degree of correlation (Cronbach alpha: 0.51). In a similar fashion, the variable on growth objectives was computed as the average of three global sourcing drivers: corporate growth, access to new markets, and contribution to firm global strategy (Cronbach alpha: 0.55). The importance of speed to market as a strategic driver was operationalized using the respective Likert scale item from the ORN survey (see Table 1).

In addition, we use multiple measures to control for location effects in governance choices. First, in line with prior studies that suggest an influence of institutional conditions in sourcing and governance decisions (see e.g. Doh, Bunyaratavej, and Hahn, 2009; Hahn, Doh, and Bunyaratavej, 2009), we use an institutional distance measure that captures the cumulative institutional difference between host and home country of sourcing firms based on Kaufmann institutional indicators: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, control of corruption. Second, we capture the influence of prior sourcing experience of the respective firm in a particular sourcing location, measured by number of years between first and focal project in a given location. In line with the idea that psychic distance and liability of foreignness lower as firms gain experience with certain environments (Zaheer, 1995; Johanson and Vahlne, 1977), we expect that local experience may also affect governance decisions. Third, we use dummy variables to capture some population level effects

and to control for the potential role of peer observation or imitation. One dummy captures whether (1) or not (0) firms of at least medium size (i.e. more than 500 employees) from the same home country had implemented global outsourcing projects prior to a focal project. A second dummy captures whether (1) or not (0) firms of at least medium size had implemented any outsourcing projects in the same host country prior to the focal project. A third dummy captures whether (1) or not (0) firms of at least medium size from the same industry as the focal firm had implemented any outsourcing projects prior to the focal project. Our focus on midsize and larger firms ensures a sufficient degree of visibility and potential role model effect. Finally, we use the natural logarithm of the number of employees as an indicator for firm size. We also control for firm country of origin using dummy variables for country headquarter locations, as well as dummy variables for major industries of firms in our sample.

To test our hypotheses, we used sub-samples of different adopter populations. To test H1a and H1b, which focus on initial projects of early vs. late adopters, we included projects that firms launched in their first year. Within this sub-sample, we differentiated between initial projects launched by “early adopter” firms that started sourcing globally before 2004 (M1; n=202) and initial projects launched by “late adopter” firms starting offshoring in 2004 or later (M2; n=266). Differentiating firms by initial launching year prior to vs. since 2004 cuts the firm population almost in half, which gives statistical justification for this split. We also used other cut-off points for robustness checks (see also below). The cut-off point of 2004 was further motivated by the trend of total contract value of the business process outsourcing (BPO) market worldwide which has been growing faster until 2004, after which it has stabilized to more moderate rates (see e.g. Statista, 2018). By comparison, M3 (n=468) shows results for initial projects of all adopters, M4 (n=436) shows results for later projects of all adopters, and M5 (n=904) combines the two by showing regressions for the entire sample of projects.

To test H2a, which focuses on the effect of prior governance choices, we looked at the sample of later projects (M4; n=436), and of all projects (M5; n=904). Finally, to test H2b and H2c, which concern the effect of prior governance choices of early vs. late adopter firms, we compared all projects of firms that started sourcing globally before 2004 (M6; n=573) with those starting in 2004 or later (M7; n=331), matching the firm populations of M1 and M2. In addition, sample size permitting, we looked at early adopters starting global sourcing before 2001 (M8; n=363) and before 2000 (M9; n=244), as well as late adopters starting global sourcing after 2004 (M10;

n=235). We also performed numerous robustness checks with other cut-off points, which we report on further below. Finally, we ran probit models for various sub-samples, yielding virtually the same results.

Results

We first look at the key characteristics of early vs. late adopters. In the online appendix we report distributions of firm size, HQ, industries, global sourcing drivers, processes sourced globally, delivery models, sourcing locations, and number of staff at offshore location, for early vs. late adopters. We report distributions for the earliest adopter quartile (N=79, column 2), early adopter half (N=128, column 3), late adopter half (N=163, column 4) and latest adopter quartile (N=79, column 5). Also we report data for both initial and all projects of adopter groups. Early and late adopters show some important differences. First, early adopters are primarily large (44%) and midsize (32%), column 3), whereas late adopters are predominantly small (44%, column 4). Second, late adopters come from a wider range of countries in the survey (15) vs. early adopters (9). Third, saving labor and other costs, but also orchestrating global sourcing with an overall global strategy, were more important as an initial global sourcing driver for (typically large and midsize) early adopters than for late adopters. Fourth, the share of internal sourcing choices (captive centers) for initial projects is higher for early adopters (43%) than for late adopters (38%). Interestingly, early adopters would continue to choose captive models over time (47% of all). Fifth, the importance of India as a sourcing location would increase – from 44 percent of initial early adopters projects to 54 percent of initial late adopter projects, reflecting the relevance of India as a premier service hub especially for international providers (Athreye, 2005; Manning *et al.*, 2015). Finally, early adopters employ more staff per location than late adopters, partly reflecting larger firm size but also growth of operations over time.

<<<<<<<< Insert Tables 2 and 3, Figure 1 about here >>>>>>>>

Table 3 (a,b) displays the results of the logit models for various sub-samples (M1–10). We also report regression results for the whole sample (M5), as a way of comparison and to report results related to H2A, as well as the odds ratios for both the explanatory variables and controls. All equations are estimated using robust standard errors at the client firm level to correct for potential positive correlation of governance decisions by the same firm. We report descriptive statistics and correlations between the variables in Table 2. Correlations between main variables do not exceed (-/+) 0.4. To check for potential multicollinearity issues, we computed the variance

inflation factors for all independent variables. They range from 1.07 to 3.98, which are well below the critical threshold of 10, suggesting absence of multicollinearity issues. Next, we discuss results, and, following the suggestion by Aguinis, Werner, Abbott, Angert, Park, and Kohlhausen (2010), elaborate on actual p-values and effect sizes.

Process commoditization and availability of external service capabilities. First, we looked at these two important variables and their effect on firm governance choices for the entire sample. As for process commoditization, a descriptive analysis of the cumulative index defined above comparing processes until and after 2004 reveals a slight increase of commoditization for most types of processes, including administrative, IT and software development (see Figure A in Online Appendix). However, in the case of product development processes, including product design, R&D and engineering, commoditization decreases, which suggests that service providers have focused on offering more firm- and industry-specific services in this domain in recent years. We also find, in line with prior research, that across time and the entire client firm population (M5), process commoditization positively affects the likelihood that firms choose an external governance model ($\beta=0.408$; $p=0.093$). As for availability of service capabilities, Figure 1 reveals rapid growth of service availability across the provider population over time, especially since 2000. For example, whereas IT infrastructure services were offered in 2000 by only 29 percent of service providers, the number went up to 47 percent in 2005 and reached 64 percent in 2009. Also, supporting prior research, M5 indicates that across years and the client firm population, availability of service capabilities has a highly significant effect on the likelihood that firms choose an external rather than internal governance mode when sourcing processes globally ($\beta=2.220$; $p=0.003$). However, the more differentiated analysis of sub-populations of firms reveals that process commoditization and availability of service capabilities actually affect governance choices only for certain sub-populations.

Early vs. later adopter effects. First, we find support for H1a and H1b that the degree to which both process commoditization and availability of service capabilities affect initial governance choices depends on whether firms are early or later adopters of global services sourcing. H1a predicted that process commoditization would affect initial governance choices mainly of early adopters, but not of late adopters. We find support for that. Looking solely at the initial implementations of early adopters (M1), at a time when mostly midsize and large client firms would experiment with global services sourcing, process commoditization positively affects firm decisions to

source a process externally ($\beta=2.845$; $p=0.002$). By comparison, when looking at the initial implementations of late adopters (M2), at a time when an increasingly professional provider industry would offer a range of more or less commoditized services to an increasing diversity of clients, process commoditization does no longer affect firm decisions to source a process externally ($\beta=0.776$; $p=0.134$). The odds ratios in the models further corroborate the declining effect of process commoditization on governance choices (17.19 vs. 2.17). A likelihood-ratio test of the contribution of ‘process commoditization’ to the overall model confirms the above interpretations. In M1, the Chi-squared value for the test is 9.38 with a rather low p-value (0.0022), whereas in M2, the Chi-squared value is 2.70 with a higher p-value (0.1003). Models M6-10, which look at all implementations for differently segmented early and late adopter groups, provide further support for H1a. In all early adopter models (M6, M8, M9), process commoditization has a significant positive effect on external governance choices, whereas in all late adopter models (M7, M10) process commoditization is insignificant.

In contrast, H1b posits that availability of external service capabilities would affect initial governance choices mainly for late adopters, but not for early adopters. We also find support for that. Looking solely at initial implementations of early adopters (M1), at a time when the provider industry was only beginning to develop and experiment with service offerings partly in response to client input, overall service availability in the provider market would not significantly affect firm decisions to source a process externally ($\beta=4.070$; $p=0.103$). By comparison, for late adopters’ initial global sourcing projects (M2), the extent to which certain services are already available in the market does have a significant positive effect on the likelihood that firms opt for an external governance choice ($\beta=3.072$; $p=0.037$). The growing importance of service availability on governance choices is further supported by the likelihood-ratio test of the contribution of ‘availability of external service capabilities’ to the overall model. In M1, the Chi-squared value for the test is 3.03 with a rather high p-value (0.0819), whereas in M2, the Chi-squared value is 5.30 with a lower p-value (0.0213).

However, we also find that, especially in the early adopters group, the extent to which availability of service capabilities matters in governance choices may depend on the operationalization of this variable and the demarcation of the client population. For example, when focusing on services offered for at least three years by more experienced providers, the availability of such services also matters to early adopters. Also, when looking at the relative availability of services in any particular year, discounting their growing availability over time, early

adopters do take immediate availability into account, while they are less concerned with the extent to which service availability might have grown over time, which matters much more for late adopters. However, no matter which operationalization we choose, we find that governance decisions of very early adopters are not affected by actual services availability. This is further supported by M8 and M9, which focus on all implementations of very early adopters. In both models, availability of service capabilities is clearly insignificant, with rather high p values (M8: $\beta=1.126$; $p=0.373$; M9: $\beta=-1.475$; $p=0.425$).

Prior governance decisions. In H2a we propose that prior decisions to select a certain governance mode for sourcing processes globally will increase the likelihood that firms continue selecting this governance mode when sourcing new processes from abroad. We proposed that this is true for both captive and external governance choices, and both M4, which includes later projects (after first year) of all firms, and M5, which includes all projects, provide very strong support for this hypothesis. Prior external governance choice has a highly significant positive effect on the decision to source a new process externally (M5: $\beta=1.129$; $p=0.000$). Likewise, prior internal governance choice has a highly significant negative effect on the decision to source a new process externally ($\beta=-1.812$; $p=0.000$). This suggests that, as predicted, initial governance choices trigger firm-specific path-dependent investments into governance-specific capabilities that make the future use of those capabilities very likely.

However, we also find important nuances when comparing early and late adopter populations. We hypothesized that in the early adopters' population, prior captive governance choices are especially likely to significantly influence future governance choices over time (H2b), whereas among late adopters, prior external governance choices are especially likely to make future outsourcing more and captive delivery models less likely (H2c). We argued that, given their size and the lack of maturity of the provider industry, the mostly midsize and large early adopters would have strong incentives to build long-term captive capabilities partly helped by their market and brand power in foreign countries, whereas a professionalized provider industry would incentivize late adopters to rather invest into external governance capabilities. We find mixed support for this prediction. We find support for H2c according to which late adopters' governance decisions are mainly affected by prior outsourcing decisions, but not by prior captive decisions. M7 indicates that this is true across all late adopter projects: whereas prior outsourcing has a significant positive effect on choosing an external governance mode for new processes ($\beta=1.002$; $p=0.024$), prior captive decisions have no significant effect ($\beta=-0.730$; $p=0.106$). M10 looks at a

different late adopter population (after 2005) and further supports this finding. We also find support for H2b in the case of very early adopters. Both M8 (firms adopting global sourcing before 2001) and M9 (adopters before 2000) indicate that for very early adopters, over time, governance decisions are strongly affected by prior captive decisions in the sense that they make outsourcing less likely (M8: $\beta = -1.847$; $p=0.000$; M9: $\beta = -1.715$; $p=0.000$). By comparison, initial outsourcing decisions do not significantly affect future outsourcing decisions (M8: $\beta=0.306$; $p=0.363$; M9: $\beta=0.294$; $p=0.510$). However, when widening the sample of early adopters to include all firms starting global sourcing prior to 2004 (M1, M6), we find that, beside prior captive decisions, also prior outsourcing decisions significantly affect future governance decisions (M1: $\beta=3.829$; $p=0.000$; M6: $\beta=1.211$; $p=0.000$). This suggests that over time, the tendency of adopters to invest into outsourcing-specific governance capabilities increases, while especially for late adopters investing into captive capabilities becomes less feasible.

In terms of control variables, the regression results reveal some interesting additional effects. Cost saving is a significant driver to choose an external governance model in the whole sample (M5), in particular for late adopters (M2). Similarly, speed to market as a driver has a strong positive effect on external governance decisions (M5), whereas growth as a driver has a strongly negative effect. This may suggest that, especially in later years, service providers have managed to market cost savings services to clients, whereas clients with a strong aspiration to orchestrate global services sourcing with growth have always resisted the option to outsource operations quite strongly and instead opted for internal sourcing solutions. Another interesting finding is the positive significant effect of institutional distance on external governance decisions, suggesting the need for an external provider to access local resources while managing local risks. As for population effects, notably, prior outsourcing experience of peers in the same host country positively affects outsourcing decisions. Prior global outsourcing experience in the same industry or in the same home country does not significantly affect outsourcing decisions for most models. Somewhat surprisingly, however, for late adopters these variables negatively affect outsourcing decisions, which may indicate that peer experience with outsourcing may contradict the promises of the provider market. Clearly, more research is needed to better understand this finding.

Discussion and Conclusion

This study contributes to research on the dynamics of firm governance choices (e.g., Argyres *et al.*, 2012; Ciarli *et al.*, 2008; Jacobides and Winter, 2005), and the interplay of firm-level and population-level factors (Jacobides, 2008). Empirically, we focused on the important context of global services sourcing, a management practice that is increasingly adopted across industries and geographies. Inspired by concepts from innovation diffusion studies (e.g., Bass, 1969; Geroski, 2000; Griliches, 1957; Metcalfe, 1988), we analyzed how the rationale for governance choices varies in function of the time of adoption of global services sourcing. Specifically, we studied the extent to which process commoditization, availability of external service capabilities and prior governance choices affect governance choices of early vs. late adopters of global services sourcing differently.

We show that time of adoption of global services sourcing as a management practice not only influenced the initial rationale for choosing a certain governance mode, but also the way in which early vs. late adopters' accumulated experience with certain governance modes would affect future governance choices. Concretely, our findings indicate that large, resourceful and entrepreneurial early adopters would typically experiment with sourcing highly commoditized processes from external vendors, while building internal sourcing capabilities for more idiosyncratic and strategically important processes. These capabilities would continue to prompt early adopters to choose internal governance modes when sourcing new processes from abroad despite a growing supplier market. In contrast, the diverse and more reactive population of late adopters would respond to an increasingly large and professional supplier market and outsource a range of more or less commoditized processes, while lacking incentives and/or resources to build up internal sourcing capacities. Instead, they would invest into external governance capabilities that make future choices of external governance modes even more likely.

These findings have significant implications for understanding firm- and population-level dynamics driving governance decisions over time (Kapoor, 2013; Argyres *et al.*, 2012). First, we contribute to a better understanding of forces of homogeneity and heterogeneity in governance choices within firm populations (Jacobides and Winter, 2005; Kapoor, 2013; Mayer *et al.*, 2012). Whereas prior research has mainly distinguished between population-level dynamics, such as supplier specialization, driving homogeneous governance choices, and firm-specific dynamics, such as experience effects, driving heterogeneity in governance choices, our study emphasizes the importance of analyzing more nuanced sub-populations of firms whose decision-making patterns are an important driver of the parallel existence of different governance practices. Importantly, the differences we find between

governance choice patterns of early vs. late adopters result from both firm-specific characteristics and population-level dynamics. At the firm level, for example, the typically large size and experimental orientation of early adopters allow them to develop capabilities that enable them to stay ahead of or remain somewhat independent of population-level trends (Massini, Lewin, and Greve, 2005). At the same time, the fact that they adopt practices or technologies when suppliers only begin to specialize ‘forces’ them to invest into more internal firm-specific capabilities. By contrast, the tendency of late adopters to more readily adopt existing solutions from external suppliers is again a result of both their firm characteristics (i.e. being small and risk-averse), and the properties of the supplier landscape at the time of adoption. This suggests that insights from innovation diffusion studies (e.g. Norton and Bass, 1987; Mahajan and Muller, 1996; Jun and Park, 1999) may shed further light on how firm and population-level dynamics interrelate in affecting governance decisions, and how client and supplier capabilities co-evolve within firm populations (e.g. Jacobides and Winter, 2005). The case of global services sourcing further indicates that distinguishing early and late adoption may be particularly useful when studying governance choices in rather heterogeneous firm populations that cut across geographies and industries, where imitation effects are less likely to drive isomorphic governance decisions and where, in turn, firm-specific experiences with certain governance modes at particular points in time have a strong influence on both firm-specific governance choices and wider population-level dynamics. Examples may include industries that span across very diverse geographies or diverse firm populations adopting similar technologies over time.

Second, our study helps understand differences in sourcing governance decisions between manufacturing and business services. Specifically, characteristics of business services, e.g. the fact that particular services may be commoditized but service bundles may be highly firm-specific (Sako, 2006), drive governance inseparability of sourcing practices (Argyres and Liebeskind, 1999, 2002). Moreover, intangibility and limited codifiability of services (Miles, 1993) may foster symbiotic relationships between clients and either internal or external providers (Den Hertog, 2000), hence further promoting path-dependent governance choices. Providers of business services are also less likely to pursue vertical integration and become a competitor of their clients, something not uncommon in manufacturing (Helfat, 2015). Plus, since outsourced services are rarely specific to the goods clients produce and market, consequences of process-related knowledge leakage through service providers are less severe for clients. This reduces contractual hazards, and in turn facilitates expansion of service contracts beyond

commoditized services. Together, these differences may help explain why, at least in the case of business services, increasing awareness of external sourcing opportunities in the client population (Langlois, 1992) may not necessarily affect governance choices. In fact, as firms develop sourcing capabilities and relations over time, based on initial idiosyncratic governance decisions, they are likely to continue existing arrangements and narrow their search for new governance solutions (see also Moeen, Somaya, and Mahoney, 2013). Instead of considering the changing “market” of suppliers, clients will rely more on their established network of trusted partners when implementing future projects (see, in more general, Gulati, 1995; Uzzi, 1997). It will be important, in future studies, to compare in more detail how sourcing firms respond to changing supplier populations in the context of manufacturing vs. services, and how, in turn, suppliers in both domains balance the need to address both generic and specific client demands when client populations become more differentiated in capabilities and experiences.

Third, our study adds an international dimension to extant knowledge of governance choice rationales. The choice of governance mode, and the related development of governance-specific capabilities in international sourcing contexts, more than in the case of domestic sourcing decisions, implies additional complexity of coordinating partially interdependent tasks across geographic and institutional distances (Kumar *et al.*, 2009; Apte and Mason, 1995). This may further explain the tendency of sourcing firms to persist with a certain governance model once they have developed experience with handling tasks using that model. Relatedly, our findings also indicate that prior outsourcing experiences of other client firms in the same host country matter in governance choices (see the control variables in the regression models). Interestingly, such local peer observation effects, which are relevant especially when firms lack experience, seem more important than prior outsourcing experiences of firms from the same industry or the same home country. The fact that home and host country contexts in international sourcing are typically different – economically and institutionally – seems to play a significant role here. Our analysis indicates that greater institutional distance favors external governance decisions. In line with other studies on institutional distance (e.g. Xu and Shenkar, 2002), we explain that by the ability of clients to delegate institutional risks to qualified suppliers (see also Gooris and Peeters, 2014).

This study also has some limitations that should be addressed in future work. First, as mentioned above, we do not have information about domestic governance choices of firms. Thus, we cannot analyze, based on our data,

how governance choices domestically may affect governance choices abroad, or vice versa. Some scholars have argued that “pre-entry” governance modes do affect future choices (e.g., Qian *et al.*, 2012), whereas others have argued that global services sourcing is a rather separated domain involving strategic drivers and skill sets, such as the organization of processes across geographic distance (Kumar *et al.*, 2009), that are fundamentally different from traditional forms of “sourcing” services at home (Gospel and Sako, 2010). More research is needed to shed light on this issue. Second, our study focuses on the choice between internal or external governance mode for new global sourcing implementations, leaving out any possible analysis of changes in mode of delivery for existing global sourcing implementations (e.g. from captive to hybrid to outsourced). Related to this, the data available to us was too sparse to perform hazard models and panel analysis. Future studies are encouraged to perform a more granular analysis of governance choices and changes over time.

To conclude, this study sheds new light on the changing rationale underlying governance choices in the context of global business services sourcing. By jointly looking at the difference between early and late adopters of global services sourcing, and the related evolution in suppliers’ capabilities over time, we have pursued a more nuanced understanding of heterogeneity and homogeneity dynamics in governance choices, which may apply in particular to highly diverse and evolving firm populations.

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Figures and Tables

Figure 1: Changing availability of external services (% of providers offering service)

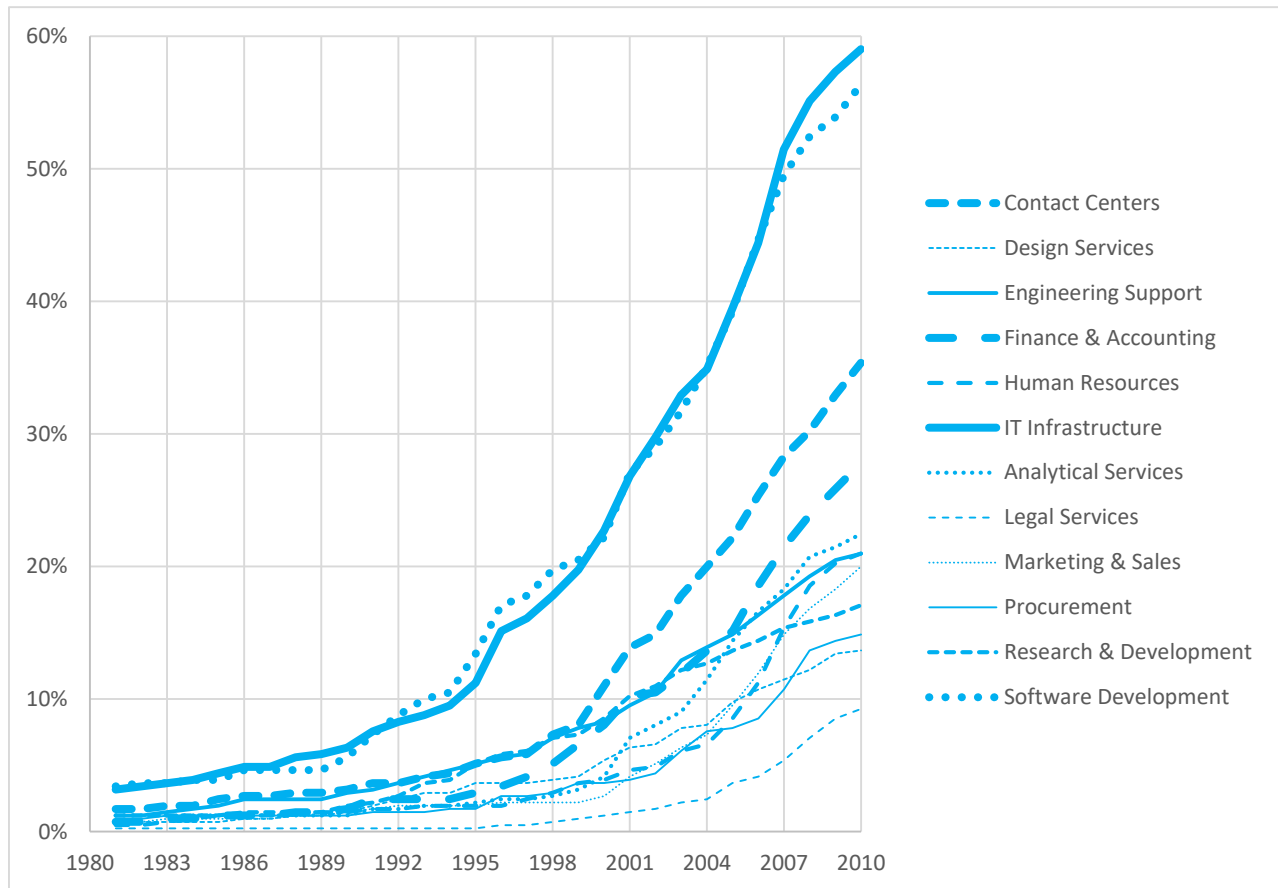


Table 1: Variables construction

Variables	Construction
<u>Dependent</u>	
Choice of external delivery model when sourcing business services globally	Dummy = 1 for choice of external delivery model, 0 for choice of internal delivery model (ORN Clients Survey)
<u>Independent</u>	
Process commoditization	Level at which a process has been offshored across (rather than within) particular industries and/or from across (rather than particular) home countries until/after 2004. For every process, $PC = (A/B) + (C/D)$, where A = % of industry with highest share in all global sourcing projects; B = % of industry with highest share in global sourcing projects for the focal process; C = % of home country with highest share in global sourcing projects; D = % of home country with highest share in global sourcing projects for the focal process (ORN Clients Survey)
Availability of external services	% of service providers (out of entire database) being able to deliver the focal business process since particular year (lagged measure: service in year X is “available” if it was introduced in X-1 or earlier) (ORN Service Providers Survey)
Prior choice of external delivery model	Dummy = 1 if company (at least in part) had chosen <i>external</i> delivery prior to focal project, else 0 (ORN Clients Survey)
Prior choice of internal delivery model	Dummy = 1 if company (at least in part) had chosen <i>internal</i> delivery prior to focal project, else 0 (ORN Clients Survey)
<u>Controls</u>	
Strategic driver: Cost saving	1 to 5 (low to high) mean score attributed to “labor cost savings” and “other cost savings” as strategic drivers for the focal global sourcing project (ORN Clients Survey)
Strategic driver: Growth	1 to 5 (low to high) mean score attributed to “access to new market,” “global strategy,” and “firm growth” as strategic drivers for the focal global sourcing project (ORN Clients Survey)
Strategic driver: Speed to market	1 to 5 (low to high) score attributed to “increasing speed to market” as strategic driver for the focal global sourcing project (ORN Clients Survey)
Firm size	Logarithm of number of employees in the company in year global sourcing project is launched (ORN Clients Survey)
Industry	Dummies for: Finance, Software / IT, Manufacturing, Professional Services, Telecommunications (ORN Client Survey)
Headquarters	Dummies for: USA, UK, Netherlands, Belgium (ORN Client Survey)
Institutional Distance Host-Home	Sum of differences between Kaufmann institutional indicators of host country and home country of sourcing firm (indicators: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, control of corruption) (External source)
Prior Firm Location Experience	Number of years of sourcing experience of a firm in a particular sourcing location prior to the focal project (ORN Clients Survey)
Prior Population Experience Dummies	Dummies for at least one prior outsourcing project (1) vs. no prior outsourcing projects (0) of firms (a) from same home country, (b) in same host country, (c) from same industry, prior to a firm’s particular sourcing project
<u>Subsamples Criteria</u>	
D_Initial early adopters	Dummy = 1 for initial global sourcing projects (first year) launched by early adopters (who started before 2004) (ORN Clients Survey)
D_Initial late adopters	Dummy = 1 for initial global sourcing projects (first year) launched by late adopters (who started since 2004) (ORN Clients Survey)
D_Initial projects	Dummy = 1 for global sourcing projects with ≤ 1 year of firm prior global sourcing experience (ORN Clients Survey)
D_Experienced projects	Dummy = 1 for global sourcing projects with > 1 year of firm prior global sourcing experience (ORN Clients Survey)

Table 2: Correlations and descriptive statistics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
(1) External delivery choice (DV)	1.000																								
(2) Process commoditization	0.011	1.000																							
(3) Availability of external services	0.219	0.084	1.000																						
(4) Prior external delivery choice	0.220	-0.008	0.027	1.000																					
(5) Prior internal delivery choice	-0.407	0.088	-0.161	0.071	1.000																				
(6) Driver: Cost Saving	0.149	-0.076	0.037	0.168	-0.088	1.000																			
(7) Driver: Growth	-0.244	-0.026	-0.171	-0.010	0.175	-0.036	1.000																		
(8) Driver: Speed to market	-0.012	-0.051	0.030	-0.025	-0.005	-0.058	0.354	1.000																	
(9) Firm size	0.066	-0.009	0.008	0.229	0.056	0.203	-0.071	-0.129	1.000																
(10) Industry: Finance	0.170	-0.002	0.144	0.161	-0.103	0.126	-0.095	-0.058	0.268	1.000															
(11) Industry: Software/IT	-0.219	-0.026	0.112	-0.196	0.092	-0.055	-0.045	0.030	-0.279	-0.284	1.000														
(12) Industry: Manufacturing	-0.106	0.074	-0.163	0.043	0.148	-0.118	0.088	-0.027	0.115	-0.227	-0.279	1.000													
(13) Industry: Prof. services	0.087	0.025	-0.009	-0.121	-0.107	-0.008	0.018	-0.002	-0.244	-0.147	-0.180	-0.144	1.000												
(14) Industry: Infrastructure	0.096	0.080	-0.075	0.084	-0.034	0.029	0.042	-0.004	0.116	-0.130	-0.159	-0.127	-0.082	1.000											
(15) HQ: USA	0.195	-0.087	0.119	0.186	-0.147	0.209	-0.081	0.023	0.277	0.212	-0.044	-0.199	-0.037	-0.055	1.000										
(16) HQ: UK	0.037	0.019	0.012	0.071	0.009	0.020	0.000	-0.021	-0.002	-0.014	-0.058	-0.098	0.097	0.301	-0.285	1.000									
(17) HQ: Netherlands	-0.072	-0.027	-0.182	0.006	0.151	-0.176	0.132	0.012	-0.179	-0.171	-0.004	0.271	0.020	-0.073	-0.513	-0.077	1.000								
(18) HQ: Belgium	-0.223	0.097	-0.058	-0.199	0.068	-0.168	0.045	0.093	-0.361	-0.129	0.184	0.006	0.018	-0.036	-0.426	-0.064	-0.115	1.000							
(19) Institutional distance	0.225	-0.003	0.167	0.026	-0.079	0.093	-0.229	-0.113	0.112	0.024	0.061	-0.021	0.058	-0.046	0.138	-0.032	-0.031	-0.255	1.000						
(20) Firm experience in host ct	-0.092	0.076	-0.105	0.216	0.275	-0.042	0.006	-0.039	0.099	0.018	-0.043	0.067	-0.048	0.120	-0.021	0.145	0.029	-0.070	0.082	1.000					
(21) Prior outsourcing same home	0.068	0.001	0.083	0.189	0.040	-0.027	0.059	0.102	-0.042	0.065	-0.005	-0.092	0.078	0.033	0.335	0.030	0.040	-0.116	-0.023	0.031	1.000				
(22) Prior outsourcing same host	0.167	0.023	0.222	0.078	-0.076	0.077	-0.107	-0.029	0.107	0.110	0.057	-0.098	0.013	-0.002	0.137	0.053	-0.212	-0.073	0.359	0.069	0.103	1.000			
(23) Prior outsourcing same ind	0.074	0.056	0.217	0.147	0.052	0.011	-0.053	-0.013	-0.028	0.091	0.092	0.034	-0.010	-0.005	0.043	0.018	-0.065	0.011	0.070	0.064	0.231	0.288	1.000		
(24) Early adopters group (<2004)	-0.082	-0.182	-0.341	0.274	0.288	0.048	0.140	0.041	0.130	-0.110	-0.070	0.127	-0.130	0.058	0.081	-0.086	0.135	-0.033	-0.120	0.160	0.033	-0.169	-0.111	1	
(25) Late adopters group (>=2004)	0.082	0.182	0.341	-0.274	-0.288	-0.048	-0.140	-0.041	-0.130	0.110	0.070	-0.127	0.130	-0.058	-0.081	0.086	-0.135	0.033	0.120	-0.160	-0.033	0.169	0.111	-1	1
Mean	0.560	1.662	0.199	0.374	0.304	0.749	0.522	0.483	8.057	0.188	0.259	0.183	0.085	0.067	0.655	0.041	0.122	0.087	7.797	0.869	0.938	0.855	0.955	0.634	0.366
Std. Dev.	0.497	0.349	0.132	0.484	0.460	0.353	0.331	0.500	3.042	0.391	0.438	0.386	0.279	0.251	0.476	0.198	0.327	0.283	3.548	2.460	0.241	0.352	0.208	0.482	0.482
Min	0	0.984	0.007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max	1	2.926	0.559	1	1	1	1	1	12.766	1	1	1	1	1	1	1	1	1	14.835	36	1	1	1	1	1

N=904. Bold: significant at .05 level

Table 3a: Estimation of logit model—DV: choice of external delivery in global service sourcing (M1-5)

	Model 1: Initial projects of early adopters (who started before 2004)		Model 2: Initial projects of late adopters (who started in/after 2004)		Model 3: Initial projects (first year) of all adopters		Model 4: Subsequent projects (after first year) of all adopters		Model 5: All projects of all adopters (whole sample)	
	Coefficients	Odds Ratios	Coefficients	Odds Ratios	Coefficients	Odds Ratios	Coefficients	Odds Ratios	Coefficients	Odds Ratios
Process commoditization	2.845 (0.916)	17.19 (0.002)	0.776 (0.518)	2.17 (0.134)	0.969 (0.421)	2.63 (0.021)	0.056 (0.349)	1.06 (0.873)	0.408 (0.243)	1.50 (0.093)
Availability of external services	4.070 (2.497)	58.57 (0.103)	3.072 (1.471)	21.59 (0.037)	2.348 (1.079)	10.47 (0.029)	1.722 (1.190)	5.60 (0.148)	2.220 (0.753)	9.20 (0.003)
Prior external delivery choice	3.829 (1.026)	46.01 (0.000)	4.333 (1.224)	76.15 (0.000)	3.397 (0.891)	29.87 (0.000)	0.908 (0.383)	2.48 (0.018)	1.129 (0.204)	3.09 (0.000)
Prior internal delivery choice	-2.883 (1.069)	0.06 (0.007)	0.345 (0.890)	1.41 (0.699)	-1.069 (0.616)	0.34 (0.083)	-2.128 (0.325)	0.12 (0.000)	-1.812 (0.209)	0.16 (0.000)
Driver: Cost saving	0.197 (0.603)	1.22 (0.743)	1.263 (0.558)	3.54 (0.023)	0.792 (0.371)	2.21 (0.033)	0.364 (0.439)	1.44 (0.407)	0.583 (0.268)	1.79 (0.029)
Driver: Growth	-2.013 (0.700)	0.13 (0.004)	-2.413 (0.716)	0.09 (0.001)	-2.120 (0.425)	0.12 (0.000)	-0.925 (0.505)	0.40 (0.067)	-1.595 (0.303)	0.20 (0.000)
Driver: Speed to market	0.622 (0.407)	1.86 (0.127)	0.349 (0.396)	1.42 (0.379)	0.480 (0.267)	1.62 (0.072)	0.197 (0.305)	1.22 (0.518)	0.341 (0.191)	1.41 (0.075)
Firm size	-0.070 (0.084)	0.93 (0.406)	-0.112 (0.064)	0.89 (0.082)	-0.068 (0.046)	0.93 (0.138)	-0.112 (0.063)	0.89 (0.075)	-0.070 (0.033)	0.93 (0.036)
Industry: Finance	0.681 (0.636)	1.98 (0.285)	0.621 (0.542)	1.86 (0.252)	0.229 (0.385)	1.26 (0.551)	0.238 (0.411)	1.27 (0.562)	0.180 (0.270)	1.20 (0.505)
Industry: Software/IT	-0.901 (0.554)	0.41 (0.104)	-0.876 (0.532)	0.42 (0.099)	-0.924 (0.356)	0.40 (0.010)	-1.970 (0.509)	0.14 (0.000)	-1.209 (0.264)	0.30 (0.000)
Industry: Manufacturing	-0.927 (0.564)	0.40 (0.100)	-0.874 (0.693)	0.42 (0.208)	-0.828 (0.419)	0.44 (0.048)	-0.066 (0.389)	0.94 (0.866)	-0.378 (0.273)	0.69 (0.167)
Industry: Prof services	0.407 (1.036)	1.50 (0.694)	0.648 (0.720)	1.91 (0.368)	0.363 (0.531)	1.44 (0.493)	-0.280 (0.767)	0.76 (0.715)	0.221 (0.389)	1.25 (0.571)
Industry: Telecoms	0.794 (0.855)	2.21 (0.353)	0.945 (0.984)	2.57 (0.337)	0.659 (0.571)	1.93 (0.249)	0.995 (0.501)	2.71 (0.047)	0.954 (0.408)	2.60 (0.019)
HQ: USA	0.543 (1.092)	1.72 (0.619)	1.253 (0.523)	3.50 (0.010)	0.684 (0.474)	1.98 (0.149)	0.825 (0.735)	2.28 (0.262)	0.608 (0.383)	1.84 (0.112)
HQ: UK	-0.179 (2.969)	0.84 (0.952)	0.521 (0.811)	1.68 (0.521)	-0.221 (0.786)	0.80 (0.779)	1.261 (0.924)	3.53 (0.172)	0.458 (0.582)	1.58 (0.431)
HQ: Netherlands	1.152 (1.202)	3.16 (0.338)	1.674 (0.760)	5.33 (0.028)	0.922 (0.568)	2.51 (0.104)	0.921 (0.815)	2.51 (0.258)	0.913 (0.443)	2.49 (0.039)
HQ: Belgium	0.180 (1.403)	1.20 (0.898)	-0.938 (0.772)	0.39 (0.224)	-1.190 (0.588)	0.30 (0.043)	0.552 (0.967)	1.74 (0.568)	-0.873 (0.487)	0.42 (0.073)
Institutional distance	0.113 (0.076)	1.12 (0.136)	0.045 (0.069)	1.05 (0.514)	0.077 (0.044)	1.08 (0.083)	0.154 (0.040)	1.17 (0.000)	0.112 (0.028)	1.12 (0.000)
Firm experience in host country	-2.107 (0.844)	0.12 (0.013)	-3.779 (1.043)	0.02 (0.000)	-2.810 (0.829)	0.06 (0.001)	-0.081 (0.049)	0.92 (0.097)	-0.089 (0.045)	0.91 (0.049)
Prior outsourcing: same home	1.509 (1.335)	4.52 (0.258)	-2.266 (0.919)	0.10 (0.014)	-0.518 (0.573)	0.60 (0.367)	0.388 (1.087)	1.47 (0.721)	-0.294 (0.461)	0.75 (0.524)
Prior outsourcing: same host	1.081 (0.635)	2.95 (0.089)	0.113 (0.800)	1.12 (0.887)	1.044 (0.411)	2.84 (0.011)	-0.136 (0.444)	0.87 (0.759)	0.404 (0.268)	1.50 (0.132)
Prior outsourcing: same industry	-0.544 (0.663)	0.58 (0.412)	-1.854 (1.113)	0.16 (0.096)	-0.248 (0.478)	0.78 (0.603)	1.858 (1.341)	6.41 (0.166)	0.285 (0.400)	1.33 (0.476)
Constant	-6.286 (2.501)		2.176 (2.063)		-1.719 (1.121)		-2.278 (2.015)		-1.253 (0.772)	
N	202		266		468		436		904	
Log likelihood (Prob>chi ²)	55.70 (0.0001)		73.10 (0.0000)		112.54 (0.0000)		154.69 (0.0000)		237.84 (0.0000)	
Pseudo R ²	0.3306		0.3128		0.2762		0.4032		0.3096	

Standard errors in parentheses below the coefficient; p-values in parentheses below the odds ratios

Table 3b: Estimation of logit model—DV: choice of external delivery in global service sourcing (M6-10)

	Model 6: All projects of early adopters (who started before 2004)		Model 7: All projects of late adopters (who started in/since 2004)		Model 8: All projects of early adopters (who started before 2001)		Model 9: All projects of early adopters (who started before 2000)		Model 10: All projects of late adopters (who started in/since 2005)	
	Coefficients	Odds Ratios	Coefficients	Odds Ratios	Coefficients	Odds Ratios	Coefficients	Odds Ratios	Coefficients	Odds Ratios
Process commoditization	0.570 (0.335)	1.77 (0.089)	0.403 (0.391)	1.50 (0.303)	0.785 (0.452)	2.19 (0.083)	1.154 (0.615)	3.17 (0.060)	0.235 (0.452)	1.27 (0.603)
Availability of external services	1.880 (1.141)	6.55 (0.099)	2.992 (1.256)	19.93 (0.017)	1.226 (1.376)	3.41 (0.373)	-1.475 (1.850)	0.23 (0.425)	3.221 (1.566)	25.06 (0.040)
Prior external delivery choice	1.211 (0.270)	3.36 (0.000)	1.002 (0.445)	2.72 (0.024)	0.306 (0.336)	1.36 (0.363)	0.294 (0.447)	1.34 (0.510)	1.228 (0.683)	3.42 (0.072)
Prior internal delivery choice	-2.337 (0.263)	0.10 (0.000)	-0.730 (0.452)	0.48 (0.106)	-1.847 (0.350)	0.16 (0.000)	-1.715 (0.461)	0.18 (0.000)	-0.658 (0.622)	0.52 (0.290)
Driver: Cost saving	0.133 (0.360)	1.14 (0.712)	1.170 (0.467)	3.22 (0.012)	0.224 (0.567)	1.25 (0.693)	-0.145 (0.719)	0.86 (0.840)	1.236 (0.589)	3.44 (0.036)
Driver: Growth	-1.542 (0.390)	0.21 (0.000)	-1.986 (0.623)	0.14 (0.001)	-1.958 (0.522)	0.14 (0.000)	-2.306 (0.819)	0.10 (0.005)	-2.117 (0.686)	0.12 (0.002)
Driver: Speed to market	0.343 (0.243)	1.41 (0.158)	0.268 (0.377)	1.31 (0.477)	0.224 (0.299)	1.25 (0.453)	-0.283 (0.365)	0.75 (0.439)	0.708 (0.461)	2.03 (0.125)
Firm size	-0.069 (0.048)	0.93 (0.151)	-0.116 (0.061)	0.89 (0.057)	0.053 (0.060)	1.05 (0.380)	0.101 (0.081)	1.11 (0.213)	-0.103 (0.074)	0.90 (0.161)
Industry: Finance *	0.532 (0.362)	1.70 (0.142)	0.122 (0.460)	1.13 (0.790)	0.495 (0.462)	1.64 (0.284)	-	-	0.029 (0.645)	1.03 (0.964)
Industry: Software/IT	-1.252 (0.359)	0.29 (0.000)	-1.427 (0.518)	0.24 (0.006)	-1.317 (0.507)	0.27 (0.009)	-1.144 (0.641)	0.32 (0.075)	-1.285 (0.626)	0.28 (0.040)
Industry: Manufacturing	-0.241 (0.340)	0.79 (0.479)	-1.290 (0.674)	0.28 (0.056)	-0.087 (0.414)	0.92 (0.833)	-0.167 (0.523)	0.85 (0.750)	-1.273 (0.869)	0.28 (0.143)
Industry: Prof services	0.431 (0.573)	1.54 (0.452)	0.064 (0.645)	1.07 (0.922)	-0.217 (0.785)	0.81 (0.783)	-0.796 (0.983)	0.45 (0.418)	0.467 (0.893)	1.60 (0.601)
Industry: Telecoms	1.230 (0.561)	3.42 (0.028)	0.648 (0.855)	1.91 (0.448)	3.306 (1.428)	27.26 (0.021)	2.234 (1.019)	9.34 (0.028)	0.891 (0.901)	2.44 (0.323)
HQ: USA	0.072 (0.703)	1.07 (0.918)	1.184 (0.411)	3.27 (0.004)	2.040 (1.056)	7.69 (0.053)	3.281 (1.873)	26.61 (0.080)	0.628 (0.591)	1.87 (0.288)
HQ: UK	-0.031 (1.103)	0.97 (0.978)	0.953 (0.668)	2.59 (0.154)	-0.838 (1.597)	0.43 (0.600)	0.943 (1.912)	2.57 (0.622)	-0.858 (0.801)	0.42 (0.284)
HQ: Netherlands	0.488 (0.759)	1.63 (0.520)	1.686 (0.705)	5.40 (0.017)	2.552 (1.103)	12.83 (0.021)	3.546 (1.953)	34.67 (0.069)	0.866 (0.942)	2.38 (0.358)
HQ: Belgium	-0.425 (0.839)	0.65 (0.613)	-0.797 (0.679)	0.45 (0.241)	1.319 (1.265)	3.74 (0.297)	2.144 (2.001)	8.54 (0.284)	-0.967 (0.882)	0.38 (0.273)
Institutional distance	0.144 (0.036)	1.15 (0.000)	0.038 (0.063)	1.04 (0.543)	0.147 (0.043)	1.16 (0.001)	0.149 (0.057)	1.16 (0.009)	0.051 (0.080)	1.05 (0.522)
Firm experience in host country	-0.068 (0.053)	0.93 (0.200)	-0.461 (0.243)	0.63 (0.058)	-0.037 (0.052)	0.96 (0.477)	-0.014 (0.056)	0.99 (0.801)	-0.404 (0.345)	0.67 (0.241)
Prior outsourcing: same home	1.301 (0.903)	3.67 (0.149)	-2.324 (0.872)	0.10 (0.008)	0.895 (0.971)	2.45 (0.357)	0.763 (1.078)	2.14 (0.479)	-2.432 (1.193)	0.09 (0.042)
Prior outsourcing: same host	0.452 (0.330)	1.57 (0.170)	-0.383 (0.669)	0.68 (0.567)	0.675 (0.409)	1.96 (0.099)	0.951 (0.464)	2.59 (0.040)	0.344 (0.793)	1.41 (0.664)
Prior outsourcing: same industry	0.325 (0.501)	1.38 (0.516)	-1.432 (1.117)	0.24 (0.200)	0.189 (0.571)	1.21 (0.741)	0.591 (0.734)	1.81 (0.420)	-1.368 (1.144)	0.25 (0.232)
Constant	-2.410 (1.199)		3.286 (1.936)		-4.937 (1.603)		-6.419 (2.512)		2.878 (2.345)	
N	573		331		363		244		235	
Log likelihood (Prob>chi ²)	180.91 (0.0000)		89.56 (0.0000)		113.23 (0.0000)		74.73 (0.0000)		49.95 (0.0006)	
Pseudo R ²	0.3736		0.2843		0.3665		0.3664		0.2812	

Standard errors in parentheses below the coefficient; p-values in parentheses below the odds ratios

* The dummy variable Industry: Finance is dropped in the estimation of Model 9 due to the lack of observations in that category.